

The Environment: A Job for Everyone

by Donald H. DeHayes and Moira A. Ingle

The natural resource disciplines and professions, although becoming increasingly popular today, are conspicuously underpopulated by African Americans.

The "E" words: Environment. Ecology. Earth. The subject of natural resources and the environment has stimulated the buzzwords of the decade and the academic interests of students from all parts of the country.

Reaching Out To African Americans

Not in my neighborhood, you say. Maybe you're right. The natural resource disciplines and professions, although becoming increasingly popular today, are conspicuously underpopulated by African Americans. Most high school students, especially those from urban areas, get little formal exposure to natural resources or the interconnections between science and environmental problems. As a result, many African-American students have little familiarity with natural resource academic options and professional careers. The National Association of Professional Forestry Schools and Colleges (NAPFSAC) wants to change that. Increasing ethnic



Students from Hillhouse High School in New Haven, CT, study wetlands ecology with natural resource students from the University of Vermont.

Careers in Research and Development With The U. S. Fish and Wildlife Service

Pollution... deforestation... loss of wetlands and other vital wildlife habitat are the challenges Americans face as they approach the 21st century. And these are the challenges of working for the U.S. Fish and Wildlife Service.

This work is a commitment shared by over 7,000 men and women representing 120 professions, trades, and specialties. The Service's mission is: conserving and enhancing the nation's fish and wildlife and their habitats.

From the Arctic Ocean to the South Pacific, from Maine to the Caribbean, the Service's current facilities encompass more than 90 million acres of wildlife habitat. The Service manages more than 700 offices and field stations, including: eight regional offices; more than 460 wildlife refuges; 76 national fish hatcheries that annually raise over 167 million fish each; 13 research centers and their 89 field stations; and 36 cooperative research units.

Research and Development

While many people know about the Service through its National Wildlife Refuges and endangered species programs, few may be aware of the Service's Research and Development. Research and Development provides scientific information and technological innovation needed to manage wildlife and solve complex ecological problems.

Researchers include fishery and wildlife biologists, microbiologists, ecologists, veterinarians, toxicologists and other specialists. They study environmental contaminants, migratory birds, marine mammals, population ecology, habitats, fish husbandry (including nutrition and genetics), and disease diagnosis and control.

Research and Development also employs geographers, cartographers, computer scientists, engineers, statisticians, mathematicians, and a host of support people from librarians and editors to budget analysts and administrative officers to building engineers.

Diversity characterizes both the work and the workers in Research and Development. The Fish and Wildlife Service is committed to a diverse workforce representing a great variety of cultures, races, and physical abilities.

Those students wanting not just a job, but a commitment to nature's beauty and bounty, should investigate employment with the U.S. Fish and Wildlife Service. For information, contact: Office of Administrative Support, Research and Development, U.S. Fish and Wildlife Service, 1849 C Street, N.W., Arlington Square Building, Mail Stop 725, Washington, DC 20240.

diversity in natural resource professions is a must. Society needs informed citizens from diverse socioeconomic and ethnic backgrounds who understand complex natural systems and can work together to promote a safe and healthy environment.

Natural resource issues are complex and they affect every one of us, whether your "neighborhood" is urban, rural, or somewhere in between. Issues such as clean air and water and the maintenance of healthy and productive forests, wildlife populations, and fisheries influence the health and vitality of all human communities. For instance, clean water in cities doesn't just magically appear from the tap. It passes through a complex natural system. Chances are that water came from a forested watershed in mountains that may be

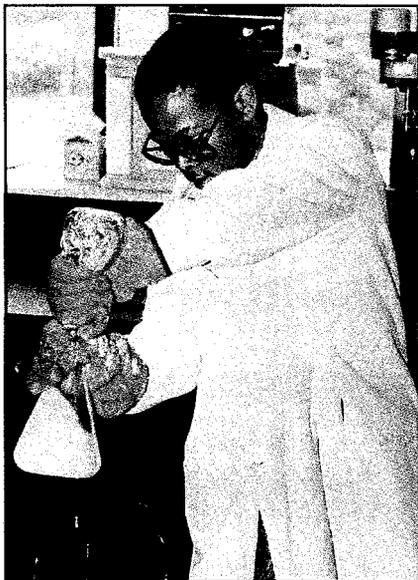


Dr. Stephen H. Kollison, Jr.

Coordinator, Forest Resources Program and Assistant Professor of Forestry/ Forest Economics, Tuskegee University

Dr. Stephen Kollison, who grew up in Liberia on the world's largest rubber tree plantation, became interested in forestry at an early age. Today he is an assistant professor and program coordinator at Tuskegee University, where he develops and implements strategies to recruit and retain students of color in the forestry program.

"The challenges that the forestry profession faces today in meeting the demands of society are enormous," Kollison says. "At Tuskegee University, we feel that minorities can and ought to be a part of the solutions to these challenges. Hence, our goal is to attract minorities to our Forest Resources Program, and ensure that they receive the education necessary to enable them to assume leadership roles in providing answers to some of the problems the profession faces, domestically and globally."



McDonogh #35

High School in New Orleans, LA spent a summer at the University of Vermont working in a forest biology laboratory conducting genetics research.

some distance away. As a result, concerns about water quality and quantity in an urban environment may begin with concerns about the health of a forest 100 miles away. These forests hold the soils in place on mountain slopes. Those soils filter the rainwater that fills streams and lakes. Wetlands (between the mountains and the city) filter impurities in the water. The quality of the water you drink as well as the availability of construction lumber, paper, and other wood products is influenced by the health and productivity of forests.

You can make a difference in the quality of your environment. To do so, however, you need to understand the fundamentals of natural systems and environmental problems. This is the goal of natural resource college programs: teaching fundamentals that can help you make a difference.

Get With The Program

Minorities Learn About Resource Management

The first symposium on Minority Participation in Forestry and Forestry-Related Sciences (MINFORS), was held in Huntsville, AL, to acquaint minority students with the opportunities available in forestry and related fields, and to strengthen ties between government, private industry and colleges, and the Historically Black Colleges and Universities (HBCUs). The four-day event included speeches, poster presentations, exhibits, and personal interaction. More than 400 people attended, far exceeding expectations; 250 were students.

The Forest Service was a major sponsor. Chief F. Dale Robertson, known for his commitment to workforce diversity, was keynote speaker for the opening night banquet. Deputy Chief of Research Jerry SESCO was also a featured speaker during the event. Other speakers included Dr. Luther Williams of the National Science Foundation; Preston Edwards, publisher of **THE BLACK COLLEGIAN**; Dr. Ivan Van Sertima, who spoke on "Blacks in Science: Ancient and Modern;" John Williams, Woodlands Management, Procter & Gamble Cellulose; Virginia Van Sickle, the National Wetlands Research Center; and many other representatives from business, government, and academia. Joining the Forest Service as co-sponsors was an impressive array of agencies, including the Soil Conservation Service; the Extension Service; Cooperative State Research; Bureau of Land Management; U.S. Fish and Wildlife Service; Alabama A&M, Tuskegee, and Auburn Universities; Women in National Resources; the American Indian Science and Engineering Society; Ecological Society of America; the Society of American Foresters; and many others.

Professionals briefed the students on everything from career opportunities in the sciences to tissue culture and forest biotechnology to urban and international forestry. Not only did students learn at the symposium, but industry people also got an earful on what the up and coming forestry professionals want for their careers. Many of the students showed they were very knowledgeable about today's forestry and in tune with their career goals.

What Is A Forester?

Forestry is a science that involves management of forest resources in an increasingly complex world. Forestry is also the profession that must answer that challenge, and therefore requires extensive education and training in science and liberal arts. Thus, a forester is a person educated in the science and art of forestry and engaged in forestry work.

To possess the title of "forester," you generally must have a college degree from a school offering professional forestry education. There are, however, many disciplines related to forestry, and many people who work in forestry have professional training in other fields. These people are usually not called foresters but have titles reflecting their specialties, such as forest pathologist, forest entomologist, landscape architect, or soil scientist. We will look at these and other related fields in more detail in a later section.

Forestry education may begin with work toward a two-year associate degree. Graduates of these programs generally work as forest technicians, often performing or supervising field activities in many forestry and related fields. Employment may be in private industry or with government agencies. Many colleges with four-year bachelor degree programs accept transfer credits from graduates of associate degree forest technician programs.

Graduates of bachelor degree programs generally start in entry-level positions, but may climb up the career ladder to management positions. Master's and PhD degrees are usually required for positions in teaching, research, and highly specialized areas.

What Does A Forester Do?

Foresters may be found in the woods, in mills, in offices, laboratories, classrooms, board rooms, even in the halls of Congress. Foresters can expect diversity in their jobs. As a forester, perhaps you will be fighting a fire in the morning and making a presentation at a board meeting in the afternoon. It is easy to see why today's foresters need to be nearly as comfortable in business attire as they are in a T-shirt.

As we have seen, forestry includes a broad array of resources, benefits, and issues, with foresters involved in all aspects.

Natural resources or environmental science programs apply the fundamentals of biology, social science, and management toward solving

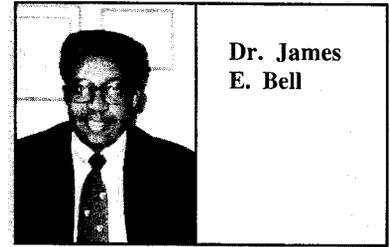
environmental problems that affect us all. Students in natural resource programs may study biology or chemistry, but it's likely to be the biology or

ecology of forests or wildlife, or the chemistry of streams, lakes, and acid rain. They work in modern laboratories with sophisticated computer systems, and perhaps with information obtained by satellites. They may use biotechnology to explore the genetics of tree or fish populations, or may perform important ecological assessments of threatened forests, wildlife, or fish communities. Natural resource programs also take advantage of another laboratory--the outdoors--where investigations of the ecosystems take place within the heart of that system.

Natural resource college programs have evolved to address the multitudes of challenges that face all environments, from rural to urban. These fields need young women and men from all backgrounds to address environmental problems where they occur.

Academic Options

Natural resource programs include a diversity of academic options that are attractive not only to students with interests in the sciences, but also to those with interest in social science, management, and business. Students with interests in biology can choose to concentrate their studies in forest science, ecology, or wildlife biology. Students with interests in chemistry might gravitate toward options in environmental science or water resources. Those with interests in human dimensions of natural resource issues or environmental policy may choose recreation, park or forest management, or environmental or conservation studies. Those with interests in business may pursue opportunities in resource economics or tourism. All of these majors couple a broad-based education in liberal



Dr. James E. Bell
Director of Administration
Southern Forest Experiment
Station, New Orleans, LA

Dr. James E. Bell, a native of the Mississippi Delta's cotton farming region, is a prime example of the diversity of career opportunities in forestry for non-scientists, as well as for those with backgrounds in agriculture and other science disciplines.

An economist by training, Bell began his career with the Forest Service after working as a city administrator in Atlanta. He also has experience in the private sector and as a college teacher. Since joining the Forest Service, he has held several positions with increased responsibility. The agency assisted him in completing a doctorate in resource economics and a public policy fellowship at the John F. Kennedy School at Harvard University.

How Do You Become A Forester?

A bachelor's degree in forestry usually requires four years of college work. During your first two years, you may expect to take "general" courses in social and biological sciences, mathematics, and communications, with introductory courses in forestry. Coursework during your junior and senior years will be more specific to forestry, with opportunities to intensify your studies in areas of your own interest. Most forestry curricula offer different options, or "tracks"--for example, forest management, forest hydrology, or forest recreation. You may also take elective courses which will allow you to develop your specific interest further.

Your coursework will be in the classroom, the laboratory, and the field. Many universities require a summer school at a field location, or a tour of major forestry operations in the nation. Many forestry students also obtain summer jobs with forestry agencies--often on National Forests and other public lands. Credit hours are given by some universities for summer work.

In general, your college work will help you gain a broad understanding of biological, social, and physical science concepts and how they apply to forestry. You will also develop the skills necessary to apply these concepts to your chosen area of forestry.

Graduate study at the master's degree level permits you to either specialize in a certain area, or broaden your general knowledge of forestry or related fields. Work at the PhD level tends to be highly specialized, requiring research in a specific area.

Some forestry students continue on into graduate school right away. Other foresters return to school after working in the profession for a number of years. While such decisions must be based on individual circumstances, those returning to school after work experience often have a better idea about their field of specialization.

If you wish to become a forest technician, associate degree programs are offered by some community, junior, and private colleges. Technician training emphasizes the more practical aspects of forestry and is aimed at developing the skills necessary to carry out field forestry work. Several options are available, such as forest management, urban forestry, nursery production, forest pest control, and park operations. Courses of study provide opportunities for hands-on experience, but with technical instruction necessary to understanding both the "why" and the "how" of field operations.

arts and sciences with the specific knowledge and tools necessary to make a real difference in environmental quality.

Career Opportunities

Natural resource programs have long been thought of as specialized fields of study for rugged outdoorsmen. This perception is less true now than ever before. Women and men who have completed natural resource college programs work as environmental scientists or consultants for private companies, as forest managers for the U.S. Forest Service, as wildlife or fisheries biologists for the U.S. Fish and Wildlife Service, or in similar positions with state or city agencies. In fact, every state and most large cities have departments or agencies that deal with environmental or park management. Because of the lack of ethnic diversity in many



Dr. Robert Lewis, Jr.

Staff Assistant to Deputy Chief, Research, USDA Forest Service Washington, DC

Dr. Robert Lewis, Jr., is responsible for planning, reporting, and evaluating Forest Service research at the national level. He started with the Forest Service in 1970 as a biological technician, then was a research plant pathologist for 10 years before moving on to more administrative positions.

Earning a PhD in plant pathology at Texas A&M University was "the best move of my career," Lewis says. "Developing as a research scientist and gaining the recognition and respect from peers across the nation, and even in other countries, brought about a good feeling of accomplishment. But even more gratifying was a feeling that what I did as a scientist really made a difference in our society and to the people who depended on me to help solve their problems through research."

of these agencies, employment opportunities are especially plentiful for African Americans. Some natural resource graduates also choose to pursue careers outside of natural resources. Because of a strong foundation in the sciences, social sciences, and liberal arts, natural resource graduates also compete successfully in the open job market, and, because of their appreciation of the intricacies of the natural world, bring fresh perspectives to other fields. In addition, many graduates choose to further their educations at the master's or PhD level, either in natural resources or other disciplines such as biology, business, or public administration.

The Job Description

Careers in natural resources are as diverse as the natural ecosystems

Opportunities Following Graduation

After you graduate, career openings are available in private industry as well as all levels of government. As we have seen, forestry employment is extremely diverse.

Employment opportunities in private industry are primarily with companies that manage forest lands for lumber, pulpwood, and other products. Forestry employment may also be found with companies that utilize forest products (such as Procter & Gamble Cellulose), and with suppliers of forestry equipment and materials. Other possible job sources are private estates, tree service companies, and forestry consulting firms.

Most forestry positions in the federal government are with the U.S. Forest Service, but opportunities also exist with other agencies, such as the Soil Conservation Service, the Bureau of Land Management, the National Park Service, and the U.S. Army Corps of Engineers.

Many individuals are employed by state forestry agencies to provide forestry services to private forest land owners and to manage state forest lands. In many states, the Cooperative Extension Service employs foresters in both state and county positions. County and municipal governments also have forestry positions involving planning, urban forestry, recreation management, and watershed forestry.

Beginning salaries in forestry are comparable to those in other resource-based professions. Advancement opportunities are abundant, depending largely upon individual capability and initiative. As we have discussed, opening positions in forestry often involve field work under the supervision of more experienced foresters. Such work may be in rural locations and may also require frequent moving.

Forestry is constantly changing. New products, equipment, and techniques are being developed and new issues emerge almost daily. Thus, you must keep current. A wide variety of continuing education opportunities will be available to you--conferences, seminars, publications, and audio and video presentations. In addition, you may have to become licensed or registered, depending upon the laws of the state in which you work. Also, if you work with chemical pesticides, training and certification will be necessary.

A good way to learn about potential forestry jobs, or just to get first-hand information about the forestry profession, is to call or visit your state's department of natural resources or division of forestry, or visit your local forester.

Finally, your professional development can be enhanced by participation in the Society of American Foresters and The American Forestry Association.

Related Fields

Forestry education provides a solid background for those who wish to enter into related natural resource careers. Forestry provides a good base for specialization through graduate study or other training in areas such as range science, wildlife biology and water and soil sciences. Conversely, many people with basic education in these fields plus others such as engineers, landscape architects, pathologists, entomologists, and social scientists, are involved in forestry. Forestry relies upon the assistance of related specialties, just as these fields rely upon the expertise of those trained in forestry.

Thus, you do not necessarily have to be a forester to work in forestry. You must, however, have specific education in forestry to be a forester.

The Society of American Foresters is the official agency for accrediting professional forestry and recognizing forest technician educational programs in the U.S. For a list of forestry schools presently accredited or recognized by the Society of American Foresters, write to Society of American Foresters, 5400 Grosvenor Lane, Bethesda, MD 20814.

To learn more about foresters and forestry, The American Forestry Association invites you to become a member. *American Forests* magazine will keep you informed about your chosen field, while an AFA membership will show college administration offices that you're really interested in a forestry career. For more information about the benefits of AFA membership, write the American Forestry Association, P.O. Box 2000, Washington, DC 20013.

Salaries for natural resource positions vary among public agencies and private companies and between regions. Generally, entry-level positions range between \$20-25,000/year, with those in consulting and private industry positions toward the upper end. Those with five years or more in the profession frequently are in the \$25-30,000/year range, with many specialists in the \$35,000/year area.

Editor's Note: Special thanks to Dr. Jerry SESCO, Deputy Chief, USDA Forest Service; Dr. Tom Ellis, Director of the Southern Forest Experiment Station; and P. Gregory Smith, Director, Sciences and Education of the Society of American Foresters.

Educational Opportunities For Students In Forestry

by Dr. Stanley B. Carpenter

The Southern Region has become the nation's leader in the conservation and management of forest resources. The original forest, which stretched without end across the south at the time of settlement, was harvested in the early 1900s. The regeneration of the original forest, known as the "second forest," was a major success story of the modern conservation era and provided a source of wood supply for the rapidly growing pulp and paper industry and other wood using industries that developed in the South during the period 1930 to 1960. The "second forest" has been entirely cut and was replaced by the "third forest" which provides the basis for the most important agricultural crop in the south. The forest industries using this timber lead all other manufacturing industries in numbers of employees and wages and salaries paid to workers. As the "third forest" is replaced by the "fourth forest," foresters and other natural resource professionals are being challenged to manage the South's forests for multiple benefits which include wildlife and fisheries and public recreation as well as timber management. Much of the Southern forest land is owned by individuals and large forest products companies. Natural resource professionals, working for private industry, have taken a leadership role in managing the Southern forest for multiple benefits, protecting water quality through the implementation of "best management practices," management of habitat for threatened and endangered species, maintaining biodiversity and other environmental interests which the public has expressed. As the fourth forest is regenerated there will be an increasing need for natural resource professionals with broad training in forestry, wildlife and fisheries, water management, etc.

The fifteen forestry schools which comprise the Southern Region of the National Association of Professional Forestry Schools and Colleges (NAPFSC) stand ready to meet this challenge by providing educational opportunities for students in forestry, wildlife and fisheries, soil and water resources, aquaculture, national resource conservation, wood science, paper science, etc.

The members of the Southern Region of the National Association of Professional Forestry Schools and Colleges offers financial aid, scholarships, traineeships, fellowships; bachelors, masters, and doctoral degrees; major fields of study in forestry, wood science, forest recreation, wildlife, fisheries, environmental science, and aquaculture; low student-to-faculty ratios; and an outstanding faculty.

For more information, contact:

Dr. Stanley B. Carpenter Southern Region, NAPFSC
School of Forestry, Wildlife and Fisheries
Louisiana State University
Baton Rouge, LA 70803-6200
(504) 388-4131



John H. Yancey

Forest Supervisor of Alabama National Forests, USDA Forest Service Montgomery, AL

In 1990 John H. Yancey became the first African American to head Alabama's four national forests. He is responsible for overseeing 650,000 acres of forest land. Before

studied. For instance, environmental scientists may study air or water quality, develop plans for disposing of toxic wastes, or monitor atmospheric temperatures changes that may result from greenhouse gases. In contrast, the forest manager or scien-

starting this position, Yancey completed a six-month assignment with U.S. Representative John Conyers, Jr. (D-Michigan). Earlier, he was a USDA Forest Service timber management specialist in Washington, DC.

Yancey, who in 1968 was the first student to enroll in Tuskegee University's pre-forestry program, says today's students of color have more access to role models in the field. "The pioneers are out there and will help," he says. "If you lie the outdoors and dealing with people, then forestry is a wide open field for you. Try to do your best and learn as much as you can about natural resources, for I can assure you there is important environmental work out there for you, and you will have a satisfying career while devoting your energies to it"

tist may study the impact of acid rain on the growth of forests, develop management plans that will ensure the long-term availability of forests for the production of wood, wilderness, and water, or manage urban trees to counteract the effects of



Mack L. Hogans

Vice President, Government Affairs Weyerhaeuser Company

An employee at Weyerhaeuser since 1979, Mack Hogans has been a forester, a branch manager for the sales and marketing group, and a government affairs manager. Immediately before being appointed vice president of government affairs in 1990, he was director of government affairs and public-policy issues management.

When Hogans enrolled in the newly created pre-forestry program at Tuskegee University in 1968, he and the other students were told that at the time there was probably only one professionally trained African-American forester in the country. "I wanted to help pioneer this field," he says. He later went to the University of Michigan to continue his studies in forestry and natural resources. "Now, 24 years later, I have never regretted my decision to enter the forestry profession."

global warming. Wildlife and fisheries biologists may be involved in managing animal populations, or developing sophisticated computer maps of the most suitable habitats for maintaining healthy and diverse wild animal communities. The opportunities and job descriptions are abundant and diverse. Check them out through your guidance office or write to a Natural Resource Department at a university or any of the many U.S. Forest Service offices located throughout the country.

Where To Find It

Not every college has programs in natural resources or environmental science. Natural resource programs are usually found in state colleges

CAREER REPORT SPECIAL



Ron Spradley

Manager, Maintenance & Operational Services, Logging & Fiber Supply, South Central Region International Paper Company

Ron Spradley manages the technical support services for the Logging & Fiber Supply Division at International Paper Company. Those services include equipment management, capital and expense budget management, design and monitoring of wood-handling and transportation systems, safety, and environmental compliance.

Spradley joined International Paper in 1983 as a logging systems analyst in the South Central Region Headquarters in Natchez, MS. Before that, he was a faculty member in the School of Agriculture and Home Economics at Alabama A&M University, where he taught and did research in industrial forestry operations.

His advice to students interested in forestry careers: "Develop a career plan and establish a self-imposed quest for excellence in pursuing your goals."



Malone Buchanan

Unit Supervisor, Leake Unit Land and Timber Group International Paper Company

Malone Buchanan is responsible for all land management activities on 109,000 acres of land in Leake, Madison, and Neshoba counties, in and around Carthage, MS. He joined International Paper's Land and Timber Group in 1977 as an associate forester in Lucedale, MS, then worked his way up to the senior forester position. In 1984 he transferred to the Live Oak Unit in Bay Minette, AL, where he was unit supervisor for 115,000 acres of land in Baldwin and Escambia counties. Two years later, he moved to his current position.

He advises students considering forestry and related fields: "Do not stand idly by watching others, but do the things necessary and well enough to be watched by others."



Thomas C. Sturgis

Research Biologist Ecosystem Research and Simulation Division, Environmental Laboratory, U.S. Army Corps of Engineers

As a principal investigator in the Environmental Laboratory, Waterways Experiment Station (WES), Thomas Sturgis performs a variety of scientific research to understand the effects of the Corps of Engineers civil works and military activities on the environment and to help develop and manage natural resources in a manner that is environmentally-sound. Sturgis says, "Working at WES has been a very rewarding experience."

He adds: "My advice to Black students is to persevere. Success does not come easy and it is not guaranteed. There are things that can be done to enhance your chances of success: Take the attitude that you are going to succeed. Be enthusiastic. Be prepared to take advantage of opportunities when they present themselves. Accept no shortcuts and make no excuses."



Linda E. Winfield

Biologist, Wetland and Terrestrial Habitat Group Environmental Laboratory U.S. Army Corps of Engineers

Linda Winfield conducts greenhouse studies and field studies on propagation methods, and collected wetland species reports; and conducts habitats to observe a

Winfield, who studied with the Corps of Engineers in 1979, earned a degree in biology and chemistry and a master's in biology at Jackson State University.

Her advice to students: "Fully utilize all the academic resources and facilities available at your college and take advantage of opportunities at hand to be adequately prepared for a promising future."

Come Join Us... We are the Northeastern Forest Experiment Station (NE) and the Northeastern Area, State and Private Forestry (NA). We are excited about our work to improve the environment and we welcome all hard working individuals to be part of our team!

The mission of the NA is to serve society through the management, protection, and use of forest resources on private and state lands, communities, and cities in the Northeast, Midwest, and the District of Columbia. The mission of the NE is to care for the land and serve people through research and to develop and communicate the scientific information and technology needed for the protection, management, and utilization of forested lands in the Northeast.

We need the help of dedicated people with many specialties from land management planning to silviculture, from wildlife biology to research sciences, from forest economics to fire prevention, and from computer sciences to entomology.

If you want to influence the future of the environment and if you're looking for an opportunity to join a group of people with a proud tradition of excellence and achievement... Come Join Us!

For further information contact:

**Personnel Management Section
USDA Forest Service
5 Radnor Corporate Center
100 Matsonford Road
Radnor, PA 19087
Phone: 215-975-4247**



EQUAL OPPORTUNITY EMPLOYER

CAREER REPORT SPECIAL



John H. Williams

**Woodlands Manager
Procter & Gamble Cellulose**

John H. Williams manages 800,000 acres of forest land owned by Procter & Gamble in north Florida. He directs the research

center, nursery, Lands & Timber Computer Systems Department, Aviation Department, and Land Management Operations Team.

Growing-up on a family farm, in southwest Mississippi, was a major influence in his decision to pursue an agricultural career. "My love for the outdoors, the fulfillment of seeing crops planted, grown, and harvested were all key," Williams says. He adds that his career choice "has provided challenging work, excellent growth—personal and financial—an opportunity to do hands-on kinds of things, a chance to work with a very diverse work force, travel, and most of all, the opportunity to help green-up our environment."

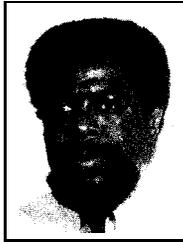
and universities. Because these institutions are usually comprehensive universities designed to serve the citizens of their state, they generally provide excellent programs and facilities for studying natural

resources, including campuses located to take full advantage of the "outdoor laboratory."

Special Opportunities

Most universities have excellent financial aid packages and many

natural resource programs provide special opportunities for African-American students. For instance, the University of Vermont (UVM) sponsors a Research Apprentice Program (RAP) to provide ethnically diverse high school students an opportunity to earn money during summer while living on campus and learning about scientific research in natural resources and other disciplines. UVM also sponsors a cooperative program with the U.S. Forest Service to provide summer and school-year jobs for natural resource students of ethnically diverse backgrounds. Some of these jobs lead to permanent employment. Other universities and natural resource programs offer similar opportunities. Your guidance counselor or college advisor can help you



Dennis L. Brandon

Statistician/Biology Contaminant Mobility and Regulatory Criteria Group, U.S. Army Corps of Engineers

Dennis Brandon provides experimenter designs and data analysis for numerous research projects of the Corps of Engineers Contaminant Mobility and Regulatory Criteria Group. He assists in evaluating upland wetland, and aquatic environments and providing recommendations that minimize contaminant mobility. Brandon is also an adjunct faculty member at Alcorn State University.

To would-be forestry professionals, Brandon says: "The key factors in determining how far you ascend the corporate ladder may be something other than your choice of discipline or GPA. The key factors are intangibles. They include character, motivation, a commitment. Additionally, you need three things to be successful: a positive self-concept, the ability to perform an objective self-evaluation, and basic problem-solving skills."



Dr. Jane L. Ford-Logan

**Dr. Jane L. Ford-Logan
Research Scientist
USDA Forest Service**

Dr. Jane L. Ford-Logan was hired by the Southern Forest Experiment Station as a plant physiologist, in January 1990, and one of less than 10 African-American research scientists and the only African-American female scientist currently employed in the research branch of the Forest Service.

Ford-Logan attributes her employment in the forestry industry to "a solid education grounded in math and the sciences." Neither her bachelors from Tuskegee University nor her masters from Alabama A&M University,

doctorate from Michigan State University were in forestry but biology, plant and soil science, and horticulture, respectively.

Although now employed with the Forest Service, Ford-Logan spends a portion of her time mentoring, advising, and training minority students. After working seven years as a university professor at one of the nation's predominantly Black land grant colleges and universities, she feels she still has an obligation to serve as a role model for students.

identify these universities and special programs. Call or write to get more information.

A Natural Resources

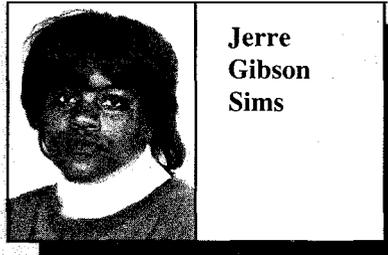
Education:

Fundamentals

That Make A Difference

You can make the "E" word--environment--stand for excellence as well. Get the education that can truly make the difference in your environment; study natural resources in college. ☐

Dr. D. DeHayes is a professor of forest biology and associate dean, and Ms. M. Ingle is a wildlife biologist, School of Natural Resources at the University of Vermont, Burlington, Vermont.



**Jerre
Gibson
Sims**

Biologist

Waterways Experiment Station U.S. Army Corps of Engineers

Jerre Sims assists in planning, developing, advising, administering, and coordinating various environmental studies for the Corps of Engineers. She participates in research that provides information relative to new scientific developments in applied estuarine biology. This research is designed to preserve, conserve, develop, and use coastal resources and to determine the effects of dredging and other coastal engineering projects on the environment.

Sims, who began her association with the Waterways Experiment Station as a co-op student at Jackson State University, has this advice for current African-American collegians studying environmental and related sciences: "Thoroughly understand the information and test its application."

Forestry & Forestry-Related Sciences Listings

Mary Ware

Personnel Manager

AR Forestry Commission

P.O. Box 4523-Asher Station

Little Rock, AR 72214

Foresters--Taking applications for Applicant Register. Contact Personnel Office, Arkansas Forestry Commission, at the above address or telephone (501) 664-2531.

Petra Shepard, PhD.

Indiana Dept. of Natural Resources

402 West Washington

Room W290

Indianapolis, IN 46204

Seasonal/permanent positions in Resource Management. Fish and Wildlife, Forestry, Reservoirs, State Parks and Law Enforcement. 1992 summer positions as timber technicians, interpretive specialists, recreation support, property maintenance technicians still available.

National Association of Professional Forestry Schools and Colleges Membership (12/1/91)

Kent T. Adair
Dean, School of Forestry
Stephen F. Austin State University
Box 6109, S F A Station
Nocogdoches, TX 75962-6109
Phone: (409) 568-3304
Fax: (409) 568-2489
Region: SO

Teuvo Airola
Chairman, Dept. of Environmental Resources
Cook College, Rutgers University
New Brunswick, NJ 08903
Phone: (201) 932-9631
Fax: (201) 932-8644
Region: NE

John F. Anderson
Director
Connecticut Ag Experiment Station
P.O. Box 1106
New Haven, CT 06504
Phone: (203) 789-7214
Fax: (203) 789-7232

Donald G. Arganbright
Head, Department of Forestry & Wildlife Management
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2665
Fax: (413) 545-4358
Region: NE

Scott Beasley
Head, Department of Forest Resources
University of Arkansas
P.O. Box 3468
Monticello, AR 71655
Phone: (501) 460-1052
Fax: (501) 460-1092
Region: SO

Bob G. Blackmon
Chairman, Faculty of Forestry
SUNY College of Environmental Science & Forestry
Syracuse, NY 13210
Phone: (315) 470-6536
Fax: (315) 470-6535
Region: NE

A. A. Boe
Chairman, Dept. of Horticulture & Forestry
North Dakota State University
Fargo, ND 58102
Phone: (701) 237-8474
Fax: (701) 237-8520
Region: NC

Benton H. Box
Dean, College of Forest & Rec. Resources
Clemson University
130 Lehotsky Hall
Clemson, SC 29634-1001
Phone: (803) 656-3215
Fax: (803) 6560231
Region: SO

Garry D. Brewer
Dean, School of Natural Resources
University of Michigan
Ann Arbor, MI 481091115
Phone: (313) 764-2550
Fax: (313) 9362195
Region: WE

George W. Brown
Dean, College of Forestry
Oregon State University
Corvallis, OR 97331
Phone: (503) 7372221
Fax: (503) 737-2668
Region: WE

Stanley B. Carpenter
Dir., School of Forestry, Wildlife, and Fisheries
Louisiana State University
227 Forestry-Wildlife-Fisheries Bldg.
Baton Rouge, LA 70803-6200
Phone: (504) 388-4131
Fax: (504) 388-4227
Region: SO

Norman L. Christensen
Dean, School of The Environment
Duke University
216 Biological Sciences Building
Durham, NC 27706
Phone: (919) 684-2135
Fax: (919) 684-8741
Region: SO

Jack E. Coster
Dir., Division of Forestry
West Virginia University
Morgantown, WV 26506
Phone: (304) 293-2941
Fax: (304) 293-2441
Region: NE

Donald F. Crossan
Dir., Ag Experiment Station
University of Delaware
Newark, DE 19717-1303
Phone: (302) 451-2501
Fax: (302) 292-3651
Region: NE

Edward Deput
Chairman, Dept. of Natural
Resource Sciences
Washington State University
Pullman, WA 99164-6410
Phone: (509) 3366166
Fax: (509) 335-7862
Region: WE

James V. Drew
Dean, School of Agr. & Land
Res. Mgt.
Dir. Ag Exp. Station
University of Alaska Fairbanks
172 AHRB
Fairbanks, AK 99775-0100
Phone: (907) 474-7083
Fax: (907) 474-7439
Region: WE

A. A. (Al) Dyer
Chairperson, Dept. of Forest
Sciences
Colorado State University
Ft. Collins, CO 80523
Phone: (303) 491-6911
Fax: (303) 491-6754
Region: WE

Donald R. Field
Dean, School of Natural
Resources
**University of Wisconsin-
Madison**
146 Agriculture Hall
Madison, WI 53706
Phone: (608) 262-6968
Fax: (608) 262-6055
Region: NC

Richard F. Fisher
Head, Dept. of Forest Science
Texas A&M University
Horticulture Forest Science Bldg.
College Station, TX 77843-2135
Phone: (409) 845-5000
Fax: (409) 845-6049
Region: SO

Lawrence K. Forcier
Dean, School of Natural
Resources
University of Vermont
330 Aiken Center
Burlington, VT 05401
Phone: (802) 656-4280
Fax: (802) 656-8683
Region: NE

Warren E. Frayer
Dean, School of Forestry
& Wood Products
Michigan Tech University
Houghton, MI 49931
Phone: (906) 487-2454
Fax: (906) 487-2915
Region: NC

Sidney S. Frissell
Dean, School of Forestry
University of Montana
Missoula, MT 59812
Phone: (406) 243-5522
Fax: (406) 243-4510
Region: WE

Lawrence D. Garrett
Dean, School of Forestry
Northern Arizona University
Box 4098
Flagstaff, AZ 86011
Phone: (602) 523-3031
Fax: (602) 523-1080
Region: WE

Ronald L. Giese
Chairman, Dept of Forestry
University of Wisconsin
Russell Labs
Madison, WI 53706
Phone: (608) 262-1780
Fax: (608) 262-9922
Region: NC

G. F. Gifford
Head, Department of Range,
Wildlife & Forestry
University of Nevada
Reno, NV 89512
Phone: (702) 784-4000
Fax: (702) 784-4583
Region: WE

John C. Gordon
Dean, School of Forestry
& Env. Studies
Yale University
New Haven, CT 06511
Phone: (203) 432-5107
Fax: (203) 432-5942
Region: NE

Charles C. Grier
Head, Department of Forest
Resources
Utah Sate University
Logan, UT 84322-5215
Phone: (801) 750-2455
Fax: (801) 750-3798
Region: WE

Alan Haney
Dean, College of Natural
Resources
University of Wisconsin
Stevens Point, WI 54481
Phone: (715) 346-4617
Fax: (715) 341-0089
Region: NC

John A. Helms
Chair, Dept of Forestry
& Resource Management
**University of California,
Berkeley**
145 Mulford Hall
Berkeley, CA 94720
Phone: (510) 642-0376
Fax: (510) 643-5438
Region: WE

John C. Hendee
Dean, College of Forestry,
Wildlife & Range Sciences
University of Idaho
Moscow, ID 83843
Phone: (208) 885-6442
Fax: (208) 885-6226
Region: WE

Gary Hergenrader
Head, Department of Forestry
Fisheries, & Wildlife
**University of Nebraska,
East Campus**
101 Plant Industry Building
Lincoln, NE 68583-0814
Phone: (402) 472-2944
Fax: (402) 472-2964
Region: NC

W. Carter Johnson
Head, Department of
Horticulture Forestry,
Landscape & Parks
South Dakota State University
Box 2207-C
Brookings, SD 57007
Phone: (605) 688-5136
Fax: (605) 688-6065
Region: NC

Steven E. Jungst
Chairman, Department of
Forestry
Iowa State University
Ames, IA 50011
Phone: (515) 294-1166
Fax: (515) 294-1337
Region: NC

Daniel E. Keathley
Chair, Department of Forestry
Michigan State University
East Lansing, MI 48824-1222
Phone: (517) 355-0093
Fax: (517) 353-1143
Region: NC

Noel P. Kefford
Dean, College of Tropical Ag
& Human Resources
University of Hawaii
3050 Maile Way, Room 202
Honolulu, HI 96822
Phone: (808) 956-8234
Fax: (808) 956-6442
Region: WE

Edgar L. Kendrick
Director
School of Renewable Resources
University of Arizona
Tucson, AZ 85721
Phone: (602) 621-7257
Fax: (602) 621-7196
Region: WE

Robert Kennedy
Vice President for Research
& Dir., Ag Exp Station
University of Maryland
College Park, MD 20742
Phone: (301) 405-1210
Fax: (301) 3149089
Region: NE

James P. Lassoie
Chair, Dept. of Natural Re-
sources
Cornell University
Fernow Hall
Ithaca, NY 14853
Phone: (607) 255-2298
Fax: (607) 255-0349
Region: NE

William Laycock
Head, Division of Range
Management
University of Wyoming
Laramie, WY 82070
Phone: (307) 766-2263
Fax: (307) 766-3379
Region: WE

Dennis C. Le Master
Head, Dept. of Forestry
& Natural Resources
Purdue University
West Lafayette, In 47907
Phone: (317) 494-3591
Fax: (317) 494-0409
Region: NC

Arnett C. Mace, Jr.
Dean, School of Forest
Resources
University of Georgia
Forest Resources Bldg.,
Room 231
Athens, GA 30601
Phone: (404) 542-2686
Fax: (404) 542-8356
Region: SO

William W. **Mautz**
Chairman, Dept of Natural
Resources
University of New Hampshire
James Hall
Durham, NH 03824
Phone: (603) **862-1020**
Fax: (603) 662-4976
Region: NE

Dwight **McCurdy**
Chair, Dept of Forestry
Southern Illinois University
Carbondale, IL 62901
Phone: (618) **453-3341**
Fax: (618) 453-1778
Region: NC

John Mexal
Head, Horticulture Department
New Mexico State University
Box 3530
Las **Cruces**, NM 88003
Phone: (505) 646-1522
Fax: (505) 646-6041
Region: WE

Edwin Miller
Head, Department of Forestry
Oklahoma State University
011 Agricultural Hall
Stillwater, OK 74078
Phone: (405) 744-5437
Fax: (405) 744-9693
Region: SO

Robert N. Muller
Chairman, Dept. of Forestry
University of Kentucky
205 Thomas Poe Cooper Building
Lexington, KY 40546-0073
Phone: (606) 257-7596
Fax: (606) 258-1031
Region: SO

Ray Newbold
Acting Director
School of Forestry
Louisiana Tech University
Box 10136, Tech Station
Ruston, LA 71272
Phone: (318) 257-4985
Fax: (318) 257-4288
Region: SO

D. S. Padda
Vice President
Research & Land Grant Affairs
University of the Virgin Islands
Route 2, Box 10,000
Kingshill, St. Croix, VI 00850

Norman H. Pillsbury
Head, Natural Resources
Management Dept.
**California Polytechnic State
Univ.**
San Luis Obispo, CA 93407
Phone: (805) 7562702
Fax: (805) 756-1402
Region: WE

C. P. P. Reid
Acting Director, School of
Forest Resources &
Conservation
University of Florida
118 Newins-Ziegler Hall
Gainesville, FL 32611-0303
Phone: (904) 392-1791
Fax: (904) 392-1707
Region: SO

Richard L. Ridenhour
Dean, College of Natural
Resources
Humboldt State University
Arcata, CA 95521
Phone: (707) 826-3561
Fax: (707) 826-5555
Region: WE

Jorge L. Rodriguez
College of Agricultural Sciences
**University of Puerto-Rico-
Mayaguez Campus**
College Station
Mayaguez, Puerto Rico 00708

Gary Rolfe
Head, Dept. of Forestry
University of Illinois
110 **Mumford Hall**
1301 West Gregory Drive
Urbana, IL 61801
Phone: (217) 333-2770
Fax: (217) 244-3219
Region: NC

David B. Schroeder
Head, Dept. of Natural
Resources Mgt. and Engineering
College of Agr. & Natural Res.
University of Connecticut
1376 Storrs Rd.
Storm, CT 06269-4087
Phone: (203) 486-4087
Fax: (203) 4864128
Region: NE

Richard A. Skok
Dean, College of Natural
Resources
University of Minnesota
235 Natural Resources Adm. Bldg.
2203 Upper Buford Circle
St. Paul, MN 55108
Phone: (612) 624-1234
Fax: (612) 624-8701
Region: NC

Dave Smith
Acting Director, School of
Forestry & Wildlife Resources
**Virginia Polytechnic Institute &
State University**
324 **Cheatham Hall**
Blacksburg, VA 24061
Phone: (703) 231-5481
Fax: (703) 231-3330
Region: SO

Alfred D. Sullivan
Director
School of Forest Resources
Pennsylvania State University
113 Ferguson Bldg.
University Park, PA 16802
Phone: (814) 8657093
Fax: (814) 865-3725
Region: NE

Bart A. Thielges
Assoc. Dean Research
College of Forestry
Oregon State University
Peavy Hall
Corvallis, OR 97331-5704
Phone: (503) 737-2221
Fax: (503) 737-2666
Region: WE

Emmett F. Thompson
Dean, School of Forestry
Auburn University
108 M. White Smith Hall
Auburn, AL 36849-5418
Phone: (205) **844-** 1007
Fax: (205) 844-1084
Region: SO

Warren S. Thompson
Dean, School of Forest Resources
Mississippi State University
P.O. Drawer F R
Mississippi State, MS 39762-5726
Phone: (601) 325-2952
Fax: (601) 325-8726
Region: SO

David B. Thorud
Dean, College of Forest Resources
University of Washington
Seattle, WA 98195
Phone: (206) 545-1928
Fax: (206) 545-0790
Region: WE

Larry W. Tombaugh
Dean, College of Forest
Resources
**North Carolina State
University**
2028 Biltmore Hall, Box 8001
Raleigh, NC 276958001
Phone: (919) 515-2883
Fax: (919) 515-7231
Region: NC

Albert R. Vogt
Dir. School of Natural Resources
University of Missouri
Columbia, MO 65211
Phone: (314) 882-6446
Fax: (314) 882-1977
Region: NC

Mohan K. **Wali**
Director, School of
Natural Resources
The Ohio State University
210 Kottman Hall
2021 Coffey Road
Columbus, OH 43210
Phone: (614) 292-2265
Fax: (614) 292-7162
Region: NC

Thomas D. Warner
Head, Department of
Forestry
Kansas State University
215 Call Hall
Manhattan, KS 66506
Phone: (913) 532-5752
Fax: (913) 539-9564
Region: NC

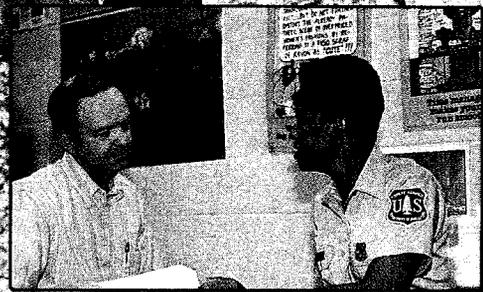
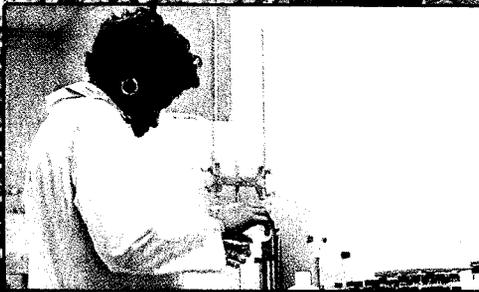
George T. Weaver
Head, Dept. of Forestry,
Fisheries, & Wildlife
University of Tennessee
Knoxville. TN 37901-1071
Phone: (615) 974-7126
Fax: (6 15) 974-2765
Region: SO

G. Bruce Wiersma
Dean, College of Forest
Resources
University of Maine
Orono, ME 04469
Phone: (207) 581-2844
Fax: (207) 581-2858
Region: NE

John Witter
School of Natural Resources
University of Michigan
Ann Arbor, MI 48109
Phone: (313) 764-2550
Fax: (313) 7639694
Region: NC

We are currently seeking individuals for the Forest Service's National Urban Forestry Program. We have approximately 100,000 acres of public land in urban areas and are looking for people to protect and enhance these areas. We are seeking individuals from a variety of backgrounds and organizations. We are interested in people who are interested in environmental issues, urban forestry, and community development. We are looking for people who are interested in working with the public and are willing to work in a variety of settings. We are interested in people who are interested in working with the public and are willing to work in a variety of settings. We are interested in people who are interested in working with the public and are willing to work in a variety of settings.

We offer
trees and people
a chance to grow



For further information contact:

USDA Forest Service
Personnel and Civil Rights
P. O. Box 96090
Washington, DC 20090-6090

